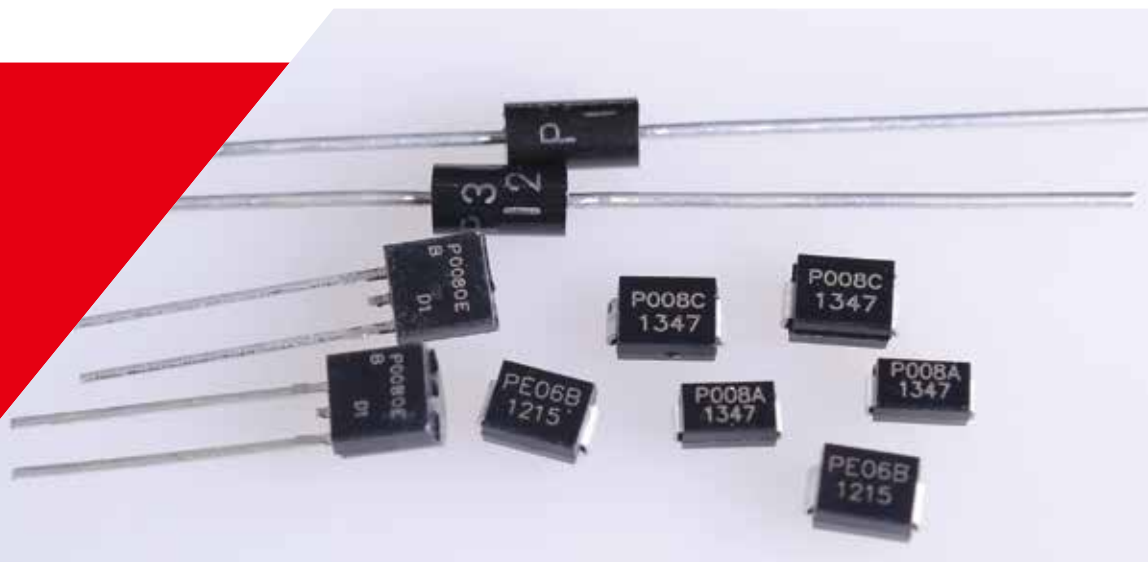




Transient Voltage Suppressors

**PxxxxTX Series
DO-214AC/SMA**

Thyristor Surge Suppressors -PxxxxTX Series

Description

DO-214AC/SMA Series are low capacitance devices designed to protect broadband equipment such as VOIP, DSL modems and DSLAMs from damaging overvoltage transients.

The series provides a surface mount solution that enables equipment to comply with global regulatory standards while limiting the impact to broadband signals.

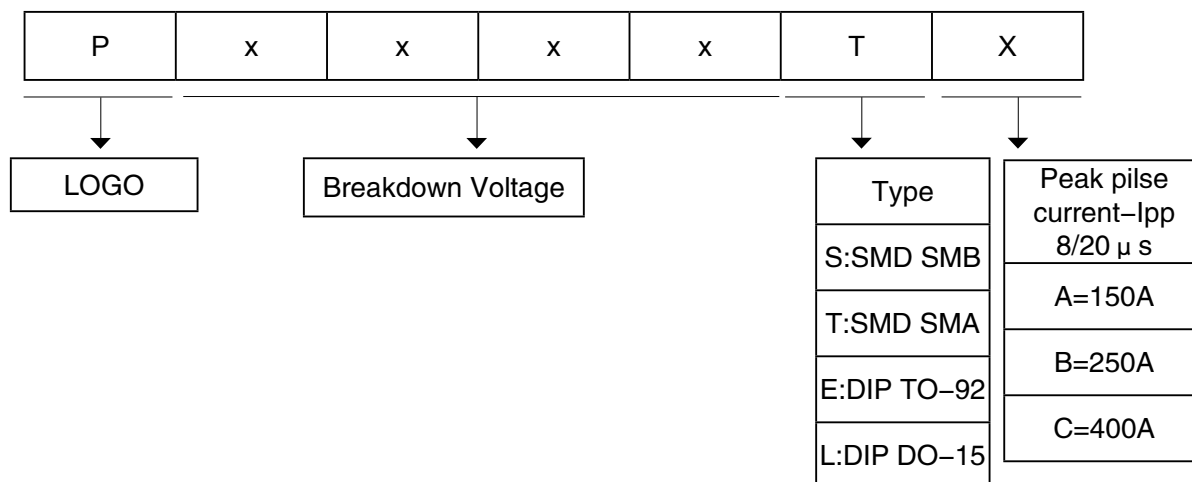


Features

Compared to surge suppression using other technologies, P Series devices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt). P Series devices:

- Cannot be damaged by voltage
- Eliminate hysteresis and heat dissipation typically found with clamping devices
- Eliminate voltage overshoot caused by fast-rising transients
- Are non-degenerative
- Will not fatigue
- Have low capacitance, making them ideal for high-speed transmission equipment

Part Number Code



Electrical Characteristics

Type Number	VDRM	VBO	IH	IS	IT	VT	CJ
	V	V	MA	MA	A	V	PF
P0080TA	6	25	50	800	2.2	4	50
P0300TA	25	40	50	800	2.2	4	70
P0640TA	58	77	150	800	2.2	4	50
P0720TA	65	88	150	800	2.2	4	50
P0900TA	75	98	150	800	2.2	4	45
P1100TA	90	130	150	800	2.2	4	45
P1300TA	120	160	150	800	2.2	4	45
P1500TA	140	180	150	800	2.2	4	40
P1800TA	170	220	150	800	2.2	4	40
P2300TA	190	260	150	800	2.2	4	35
P2600TA	220	300	150	800	2.2	4	35
P3100TA	275	350	150	800	2.2	4	30
P3500TA	320	400	150	800	2.2	4	30

Notes:

Is: Switching Current – maximum current required to switch to on state

IDRM: Leakage Current – maximum peak off-state current measured at VDRM

IH: Holding Current – minimum current required to maintain on state

IPP: Peak Pulse Current – maximum rated peak impulse current

IT: On-state Current – maximum rated continuous on-state current

VDRM: Peak Off-state Voltage – maximum voltage that can be applied while maintaining off state

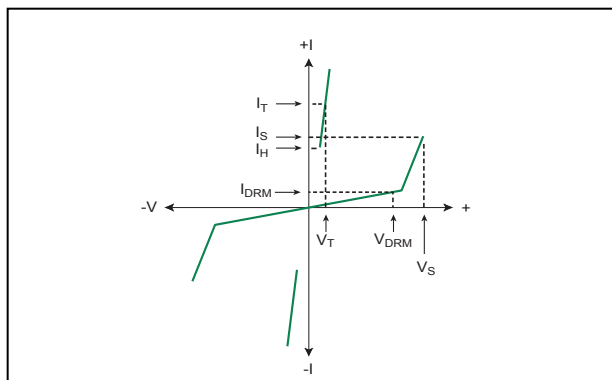
VT: On-state Voltage – maximum voltage measured at rated on-state current

SERIES	Peak Pulse Current-Ipp(A)				
	2/10μs	8/20μs	10/160μs	10/560μs	10/1000μs
A	200	150	100	60	50

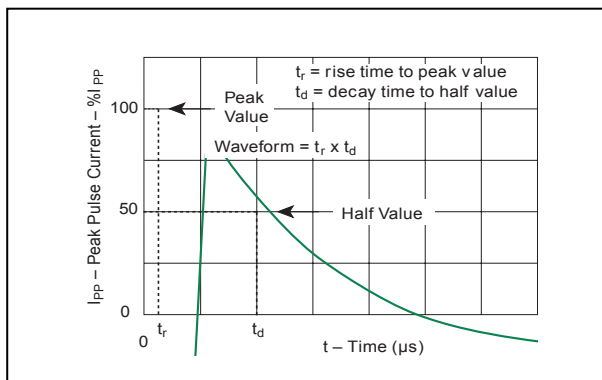
Thermal Considerations

Package SMA	Symbol	Parameter	Value	Unit
	TJ	Operating Junction Temperature	-40 to +150	°C
	TS	Storage Temperature Range	-40 to +150	°C
	RθJA	Junction to Ambient on printed circuit	90	°C/W

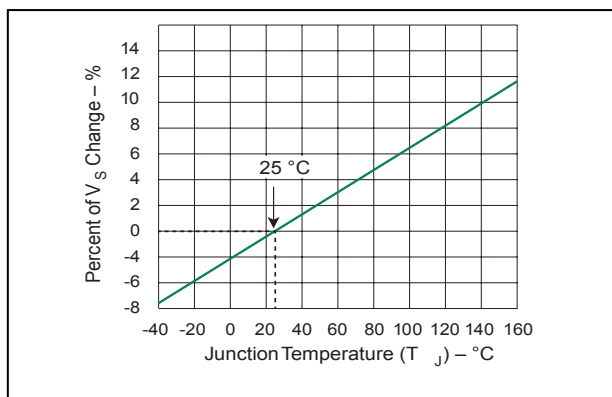
V-I Characteristics



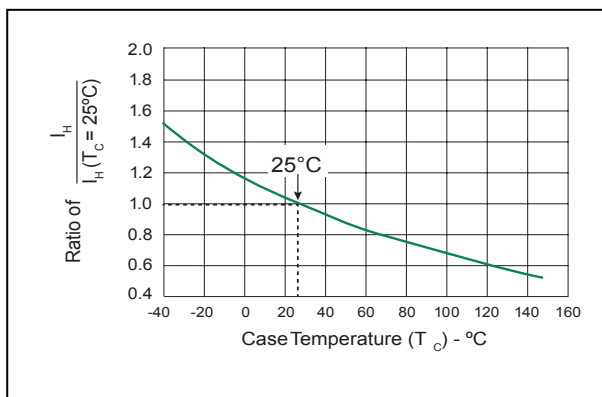
$t_r \times t_d$ Pulse Waveform



Normalized V_S Change vs. Junction Temperature



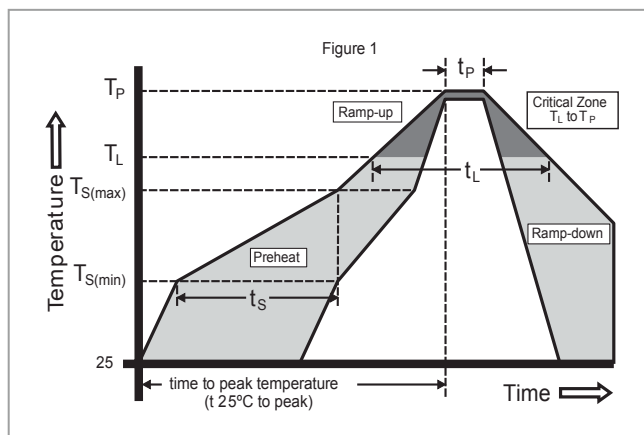
Normalized DC Holding Current vs. Case Temperature



Thyristor Surge Suppressors -PxxxxTX Series

Soldering Parameters

Reflow Condition		Pb-Free assembly (see Fig. 1)
Pre Heat	- Temperature Min ($T_{s(min)}$)	+150°C
	- Temperature Max ($T_{s(max)}$)	+200°C
	- Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max.
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	- Temperature (T_L) (Liquidus)	+217°C
	- Temperature (t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to Peak Temp (T_p)		8 min. Max.
Do not exceed		+260°C



Physical Specifications

Lead Material	Copper Alloy
Terminal Finish	100% Matte-Tin Plated
Body Material	UL recognized epoxy meeting flammability classification 94V-0

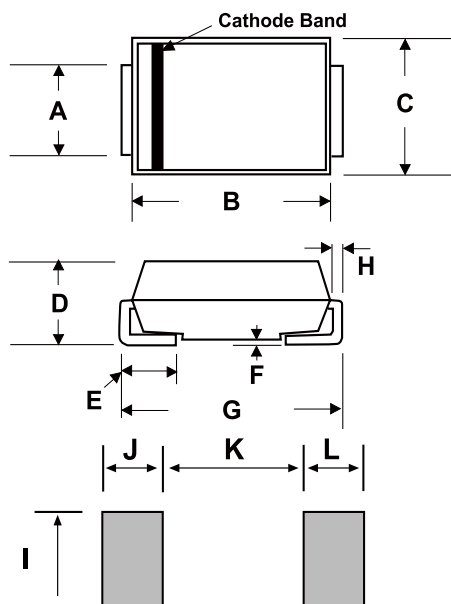
Environmental Specifications

High Temp Voltage Blocking	80% Rated V_{DRM} (V_{AC} Peak) +125°C or +150°C, 504 or 1008 hrs. MIL-STD-750 (Method 1040) JEDEC, JESD22-A-101
Temp Cycling	-65°C to +150°C, 15 min. dwell, 10 up to 100 cycles. MIL-STD-750 (Method 1051) EIA/JEDEC, JESD22-A-104
Biased Temp & Humidity	52 V_{DC} (+85°C) 85%RH, 504 up to 1008 hrs. EIA/JEDEC, JESD22-A-101
High Temp Storage	+150°C 1008 hrs. MIL-STD-750 (Method 1031) JEDEC, JESD22-A-101
Low Temp Storage	-65°C, 1008 hrs.
Thermal Shock	0°C to +100°C, 5 min. dwell, 10 sec. transfer, 10 cycles. MIL-STD-750 (Method 1056) JEDEC, JESD22-A-106
Autoclave (Pressure Cooker Test)	+121°C, 100%RH, 2atm, 24 up to 168 hrs. EIA/JEDEC, JESD22-A-102
Resistance to Solder Heat	+260°C, 30 secs. MIL-STD-750 (Method 2031)
Moisture Sensitivity Level	85%RH, +85°C, 168 hrs., 3 reflow cycles (+260°C Peak). JEDEC-J-STD-020, Level 1

Thyristor Surge Suppressors -PxxxxTX Series

Dimensions DO-214AC

Unit:mm



DIM	Inches		Millimeters	
	Min	Max	Min	Max
A	0.049	0.065	1.250	1.650
B	0.157	0.177	3.990	4.500
C	0.100	0.110	2.540	2.790
D	0.078	0.090	1.980	2.290
E	0.030	0.060	0.780	1.520
F	-	0.008	-	0.203
G	0.194	0.208	4.930	5.280
H	0.006	0.012	0.152	0.305
I	0.070	-	1.800	-
J	0.082	-	2.100	-
K	-	0.090	-	2.300
L	0.082	-	2.100	-

Packaging

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
PxxxxTX	DO-214AC	2000	Tape&Reel - 7' tape	EIA RS-481

Tape and Reel Specification



RuiLongYuan Electronics Co., Ltd.

- Reproducing and modifying information of the document is prohibited without permission from Ruilongyuan International Inc.
- Ruilongyuan International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Ruilongyuan International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Ruilongyuan International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Ruilongyuan International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ruilongyuan International Inc. for any damages resulting from such improper use or sale.

Tel: +86-755-8290 8296

Fax: +86-755-8290 8002

E-mail: jack@ruilon.com